



Australian Government
Productivity Commission

Mineral and Energy
Resource Exploration

Productivity Commission
Issues Paper

December 2012

The Commission has released this issues paper to assist individuals and organisations to prepare submissions to the inquiry. It outlines:

- the scope of the inquiry
- the Commission's procedures
- matters about which the Commission is seeking comment and information, and
- how to make a submission.

Participants should not feel that they are restricted to comment only on matters raised in the issues paper. The Commission wishes to receive information and comment on issues which participants consider relevant to the inquiry's terms of reference.

Key inquiry dates

Receipt of terms of reference:	27 September 2012
Due date for submissions:	15 March 2013
Release of draft report:	end May 2013
Draft report public hearings:	July 2013
Final report to Government:	27 September 2013

Submissions can be made

By email:	resourceexploration@pc.gov.au	By fax:	02 6240 3399
By post:	Resource Exploration Productivity Commission GPO Box 1428 Canberra City ACT 2601		

Contacts

Administrative matters:	Melissa Edwards	Ph: 02 6240 3206
Other matters:	Les Andrews	Ph: 02 6240 3251
	Bill Henderson	Ph 02 6240 3216
Freecall number for regional areas:	1800 020 083	

Website www.pc.gov.au (under 'projects')

The Productivity Commission

The Productivity Commission is the Australian Government's independent research and advisory body on a range of economic, social and environmental issues affecting the welfare of Australians. Its role, simply expressed, is to help governments make better policies in the long term interest of the Australian community.

The Commission's independence is underpinned by an Act of Parliament. Its processes and outputs are open to public scrutiny and are driven by concern for the wellbeing of the community as a whole.

Further information on the Productivity Commission can be obtained from the Commission's website (www.pc.gov.au) or by contacting Media and Publications on (03) 9653 2244 or email: maps@pc.gov.au.

Contents

1	What has the Commission been asked to do?	2
2	What is the scope of ‘exploration’?	3
3	The economics of mineral and energy exploration and the role for government	5
4	The current exploration approvals system and processes	14
5	What are the impacts of these regulatory arrangements?	17
6	Other issues impacting on the performance and efficiency of resource exploration in Australia	27
	References	32
	Attachment A: Terms of reference	35
	Attachment B: How to make a submission	37
	Attachment C: Submission cover sheet	39

1 What has the Commission been asked to do?

The Productivity Commission has been asked to examine the non-financial barriers to mineral and energy resource exploration in Australia. The inquiry will examine the exploration approval systems and processes within and across jurisdictions to assess their effectiveness and efficiency, and examine the costs associated with the regulation of exploration activities.

The inquiry has its origins in the Policy Transition Group's (PTG) report to the Australian Government on technical design elements of resources taxation reforms. That report acknowledged the regulatory barriers faced by exploration companies:

A range of approvals are required before exploration can begin, including land access, native title, indigenous and non-indigenous heritage, environmental, conservation estate and planning and infrastructure approvals. Approvals processes can be costly and time-consuming. Governments at all levels can unintentionally put in place conflicting policies that simultaneously promote and inhibit exploration. (PTG 2010, p. 17)

The PTG recommended that, as part of the effort by COAG to improve the regulatory environment faced by explorers:

... the Australian Government should commission the Productivity Commission to undertake an examination of the regulatory barriers faced by exploration companies and present its report to COAG for action by Australian jurisdictions. (PTG 2010, p. 17)

Specifically, the Commission has been asked to determine, and recommend how to overcome, any unnecessary regulatory burdens faced by those engaged in mineral and energy resource exploration and examine:

- the complexity and time frames of the approval and appeals process for exploration
- areas of duplication between Australian, state, territory and local government regulation of exploration
- the costs of non-financial barriers
- options to improve the regulatory environment for exploration activities, having regard to regulatory objectives.

The Commission has also been asked to assess the impact of non-financial barriers on the international competitiveness and economic performance of Australia's exploration sector.

Taxation and fiscal policy of the Australian, state, territory and local governments is outside the scope of this inquiry. The processes under the Australian, state and

territory governments indigenous land rights regimes are also out of scope. The inquiry is not to re-examine the Australian Government's response to the Report of the Independent Review of the *Environment Protection and Biodiversity Conservation Act 1999*.

The Commission is to report its findings within 12 months. The terms of reference are at attachment A.

In undertaking this inquiry the Commission has adopted a community-wide framework, as required by the *Productivity Commission Act 1998*. The Commission will be assessing the effectiveness and efficiency of the existing regulatory arrangements, having regard to their regulatory objectives and the net benefits the regimes provide to the wider community.

The purpose of this issues paper is to provide background information regarding the inquiry, describe some of the issues the Commission has identified at this early stage and assist contributions by stakeholders and participants. While the Commission has posed a number of questions in this paper, it is not necessary to answer these particular questions, or limit comments to the issues raised. The Commission encourages submissions — supported by sound evidence wherever possible — on any of the issues that are considered relevant to the inquiry's terms of reference.

Attachment B provides further information on how to make a submission.

2 What is the scope of 'exploration'?

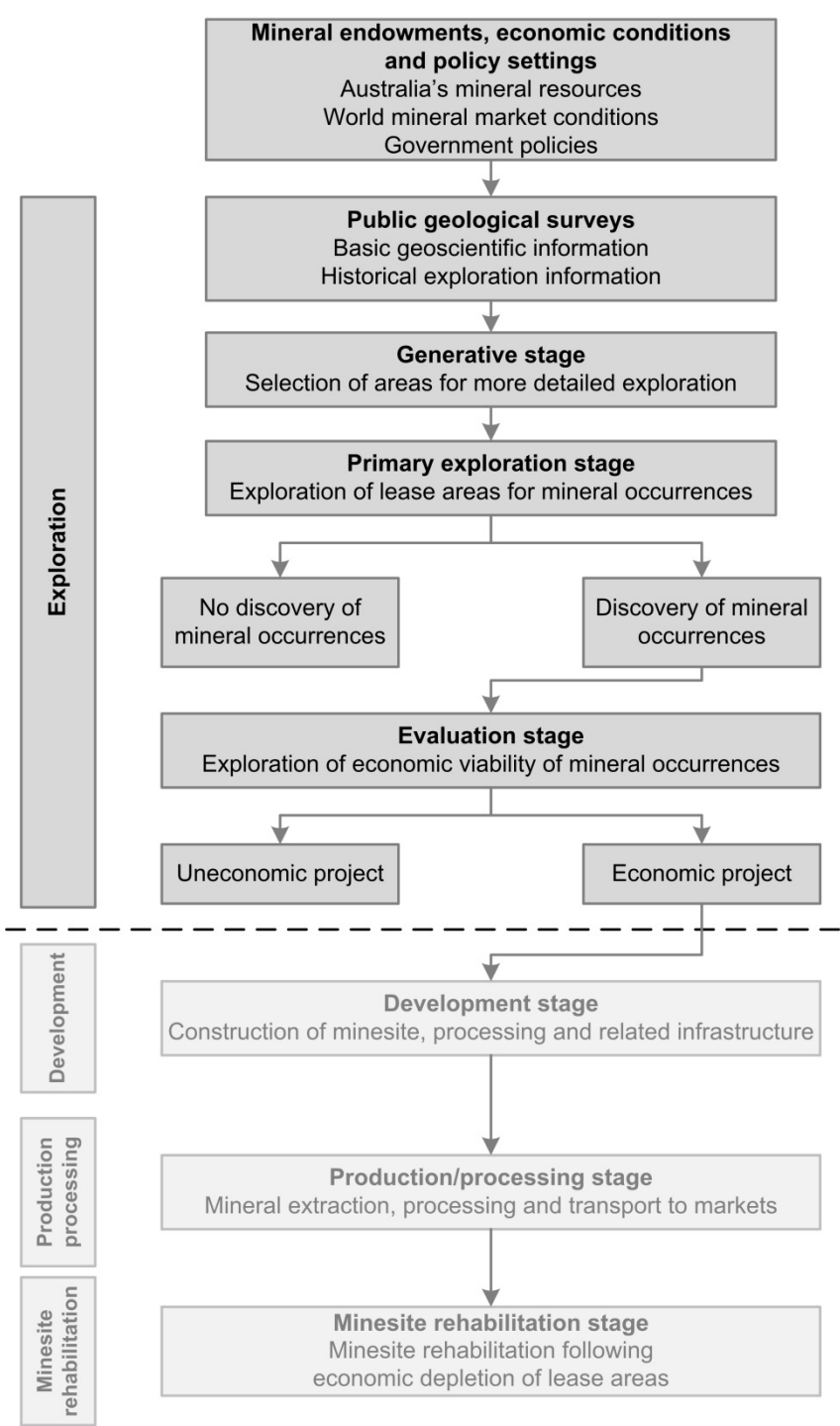
The focus of this inquiry is on those activities relating to the gathering of knowledge as to the location, quantity and quality of mineral and energy deposits. This includes the exploration activities of all entities, including the large mining companies engaged in both exploration and production and the mainly smaller companies engaged purely in exploration activities. The activities of prospectors are also in scope.

The production (mineral mining and energy extraction) and the processing of these resources are outside the scope of this inquiry. Similarly, activities relating to the extraction of stone, hard rock and other quarrying material are also considered to be out of scope. However, the production, processing and transport of minerals and energy are linked to exploration. The interdependence between mineral exploration and production, and the key stages in each, are highlighted in figure 1.

Issues and concerns raised in submissions should relate to the exploration stages of the mineral and energy resource sector. Participants should be aware that the

Commission is undertaking a concurrent benchmarking study of Australia’s major project development assessment processes, including those applicable to mining production. Issues associated with projects involving major mining production should be addressed to that study (for details, see the Commission’s web site).

Figure 1 **Key stages in mineral exploration, production and processing**



Source: Adapted from Hogan et. al (2002).

The Australian and New Zealand Standard Industrial Classification (ANZSIC) relating to exploration activities, and the firms engaged in these activities, are set out in box 1.

Box 1 ANZSIC classifications relating to exploration

Mining activities are identified in Division B of the Australian Bureau of Statistics (ABS) Australian and New Zealand Standard Industrial Classification (ANZSIC). The ANZSIC divides mining into two activities — mining operations; and exploration and other mining support services.

Firms engaged primarily in exploration — or in providing services to other resources or exploration companies — are in subdivision 10 of Division B. Exploration activities (group 101) are further divided into petroleum exploration and mineral exploration.

Petroleum exploration (class 1011) includes units engaged in:

- natural gas exploration
- petroleum exploration

Minerals exploration (class 1012) consists of units mainly engaged in exploring for minerals (except for crude petroleum or natural gas).

Given the downstream linkages from exploration to mining production, companies primarily engaged in resource production who undertake exploration activities are also in scope. These companies will be found under the following ANZSIC subdivisions:

- subdivision 06 coal mining
- subdivision 07 oil and gas extraction
- subdivision 08 metal ore mining

The extractive or quarrying industries (stone, hard rock, sand, gravel or clay) identified in ANZSIC subdivision 09 are out of scope.

Source: ABS Cat. no. 1292.0, Australia New Zealand Standard Industrial Classification (ANZSIC) (2006).

3 The economics of mineral and energy exploration and the role for government

Australia is one of the largest mineral and energy producers in the world and over the past decade has been a significant beneficiary of the increased demand for these resources. In 2010-11, the resources sector accounted for 9 per cent of Australia's GDP, more than doubling its share over the past decade, and for over half (54.1 per cent) of Australia's total export earnings, up from 22.9 per cent in 1999-00 (ABS 2012). The long term viability of the sector is dependent on the ongoing discovery of large, commercial quality deposits.

Mineral and energy deposits are public resources that require locating and assessing for their extent and quality. This requires geological expertise, capital to fund exploration and a measure of luck. It has been said that ‘it takes 500-1000 grassroots exploration projects to identify 100 targets for advanced exploration, which in turn lead to 10 development projects, one of which becomes a profitable mine’ (Eggert 2010).

Even where discoveries are not viable at current prices, they may become so if prices rise or mining techniques improve that lower the costs of extraction. These deposits therefore have a public information value for future developmental potential. They may also point to the possibility of finding additional deposits.

There are four broad groups of factors that can affect the level of mineral and energy exploration:

- *Geological factors*: What is the likelihood that mineral and energy resources of a viable quantity and quality exist in particular locations? Access to high quality reliable pre-competitive geoscience data is critical in reducing this risk.
- *Political and social factors*: Is there an adequate level of political and economic stability, well defined property rights and the rule of law to provide certainty to exploration activities? Can the exploration process be undertaken in a timely manner consistent with constraining or managing negative externalities such as adverse environmental impacts, intrusion on to land that is used for other purposes (usually agriculture) or damage to heritage sites?
- *Technological factors*: Can any discovered resource be extracted (initially for assessment and ultimately for production) and processed with existing technologies?
- *Economic factors*: Can the resources be extracted, processed and transported at a profit? These factors include the risks associated with the availability of capital and skilled workers, labour costs, workplace practices and transport infrastructure. There is also market risk associated with the current and likely future demands for the resource arising from changes in consumer tastes and technology. While many of these factors relate to the mining, extraction and processing of minerals and energy and do not directly impinge on the exploration process, they may indirectly affect the decision to explore.

Areas in which public policies can influence these factors include: provision of pre-competitive geoscience information; the compliance costs associated with tenure rights and obligations; land access processes; tax regimes; subsidy arrangements; the supply of qualified workers; workplace relations arrangements; the provision of adequate infrastructure; and export permits and treaty obligations that affect the capacity to sell minerals and energy (see box 2).

Box 2 **Government influences on exploration activity**

Although governments across Australia do not determine what is an appropriate level of exploration that should be undertaken, they do have a number of financial and regulatory levers at their disposal that can influence the overall level of exploration. These levers can act to either increase or lower the 'reward to risk ratio' for exploration activities and include:

- *availability of and access to land*: Governments, in controlling large tracts of Crown land and in regulating other land use, can influence what land is available for exploration activity and what conditions apply where exploration is allowed. There are also legislative requirements set by governments relating to access to land where native title exists.
- *regulation of exploration*: As the owners of all mineral and energy resources, governments regulate access to these resources. This involves providing licences to undertake exploration and establishing the terms and conditions of these licences. An increasing focus of the regulation of exploration activities is the environmental, native title and heritage requirements placed on explorers.
- *geoscience*: Government provision of adequate and appropriate pre-competitive geological information such as geoscience maps, databases and information systems can assist in identifying potentially fruitful locations for exploration.
- *labour skills*: Governments can assist in the provision of sufficient supplies of skilled labour through the tertiary education system and migration programs.
- *the taxation treatment of exploration activities*: Tax deductions relating to exploration activity are important in increasing the expected return to exploration activities, as only a small proportion of exploration activity will result in a commercially viable discovery. The level of royalties or other taxes applying to production are also likely to influence the overall level of exploration.
- *subsidies to exploration activities*: Governments can provide direct subsidies to exploration activities, for example, through government funded drilling programs and co-drilling programs in partnership with exploration companies.
- *support for innovation*: Government can provide support for innovation in exploration activities such as through the funding of Cooperative Research Centres associated with developing exploration technologies.

Greenfields and brownfields exploration

Exploration in resources is divided into two types of activity: greenfields and brownfields.

- *Greenfields exploration* relates to the exploration of unexplored or incompletely explored areas and is directed at discovering new resource deposits. This exploration is a high-risk, high-reward venture with potentially large returns to those successfully discovering viable deposits. This approach often appeals to

smaller (junior) mining or exploration companies who often on-sell any significant commercial discoveries.

- *Brownfields exploration* relates to exploration activity in areas with established reserves. This is usually undertaken by major companies adjacent to their existing mines to better define the quantity or quality of known resources. This enables them to extend the operating life of an existing mine and better utilise their infrastructure or use it for longer (Economic Development and Infrastructure Committee, Parliament of Victoria 2012).

Exploration expenditure

Exploration activity is fundamental to determining the size of the mineral and energy resource sector. As production depletes known reserves, commercial mining or extraction activities can only commence and continue if exploration is successful.

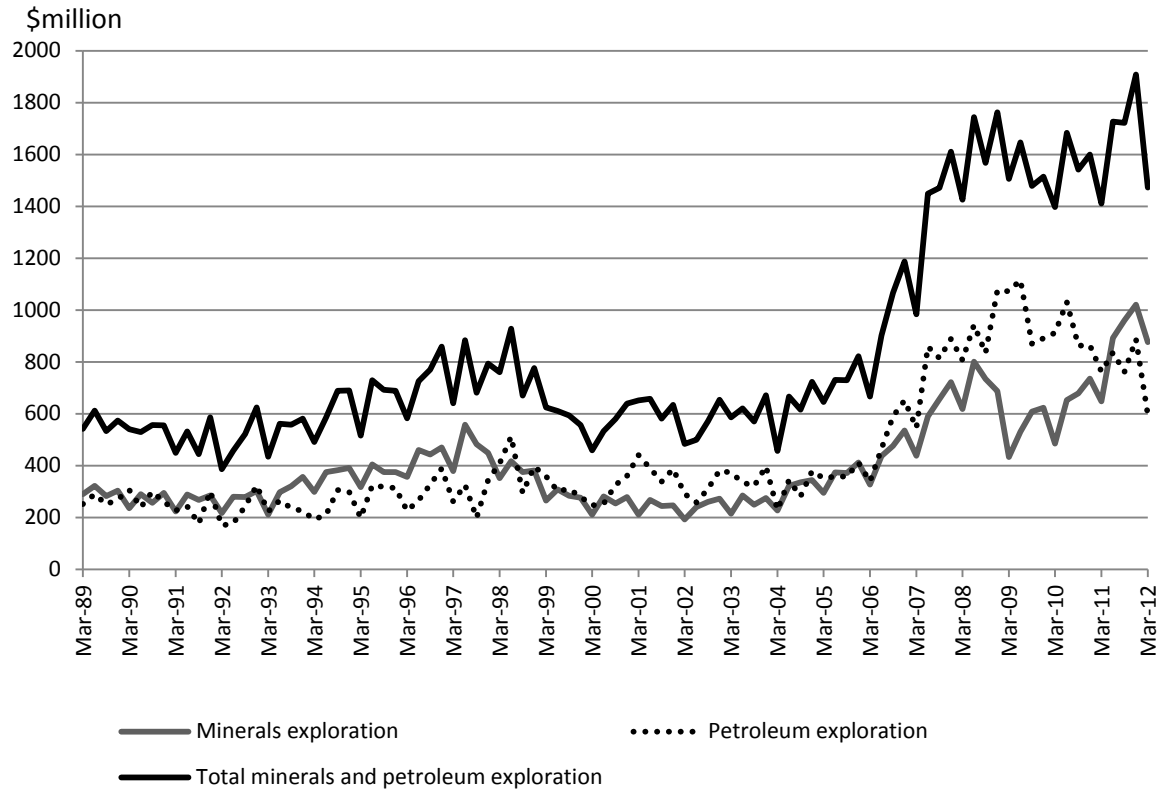
A reduced rate of discovery may result in the national mineral inventory being gradually depleted and the Australian mining industry becoming unsustainable in the long run with potentially serious economic consequences. (Schodde and Guj, p. 1, 2012)

Expenditure on mineral and petroleum exploration increased strongly over the past decade, with expenditures in real terms tripling between 2000 and 2011. However, more recent figures indicate that expenditure is declining from recent highs, driven largely by a decline in petroleum exploration (figure 2).

Higher commodity prices are said to have resulted in a shift in exploration from greenfields to brownfields activity, with the latter accounting for around 60 per cent of exploration expenditure in recent years (EIGWG 2012). This shift reflects a focus on the expansion of existing deposits to ‘fuel’ the current mining boom. There has also been a recent increase in exploration activity related to discovering coal seam gas reserves. Both of these behaviours are considered to be rational responses by the industry to changes in market conditions (PTG 2010).

The exploration behaviour of the junior sector may be influenced by its structure — a large number of companies with small capitalisations (several million dollars or less) and a smaller number with moderate to large capitalisations. The high risk nature of exploration means that the vast majority of junior explorers (around 80 per cent) record net losses in any given year, although there are large pay-offs if a successful discovery is made (Williams 2012). One observation is that there has been a large number of new entrants during the mining boom (EIGWG 2012).

Figure 2 Mineral and petroleum exploration, 1989 to 2012
Real expenditures in 2012 prices, quarterly data.



Data source: ABS cat. no. 8412.0, *Mineral and Petroleum Exploration* (2012).

What factors determine the location (greenfields versus brownfields) and level of exploration activity? What are the likely long-term impacts resulting from the current focus on brownfields exploration? Is the balance between greenfield and brownfield exploration appropriate to sustain Australia's mining sector over the longer term?

Are there different factors influencing exploration expenditure by junior explorers and established producers?

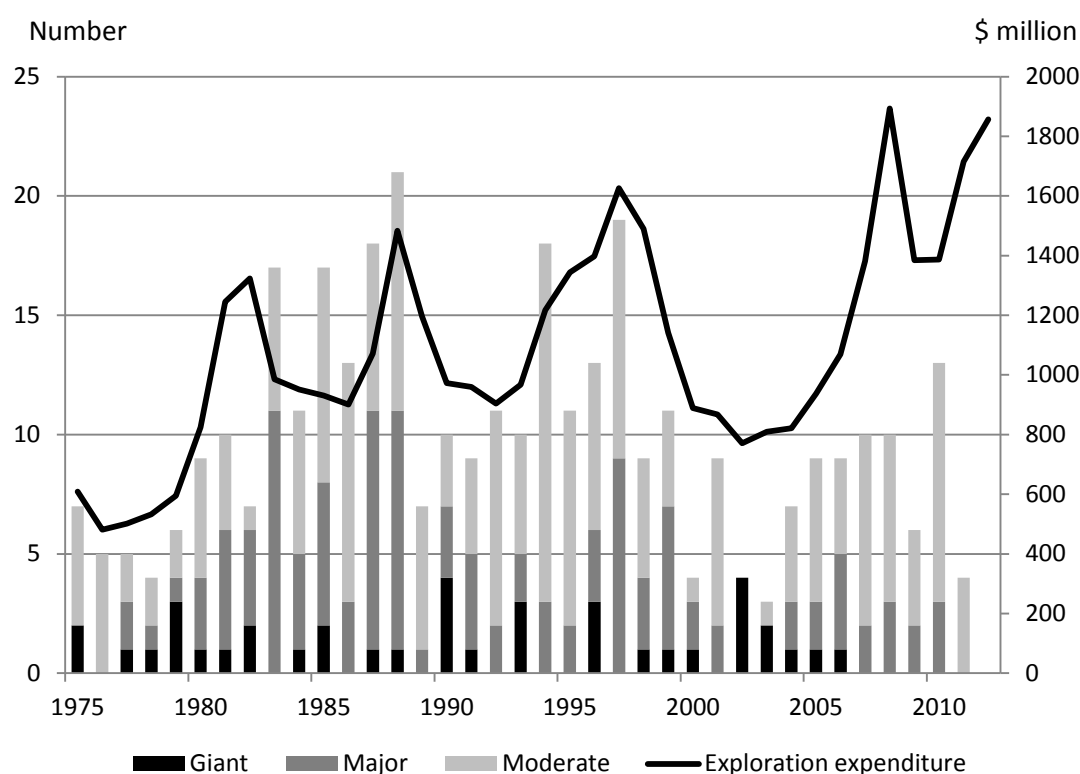
Productivity of exploration activity

Exploration productivity is a key factor in attracting investment and, ultimately, in sustaining the development of the resources sector. One indicator of productivity is the amount of drilling undertaken to discover or test new deposits or better define existing deposits. A simple partial measure of the immediate productivity of exploration activity is the cost per metre drilled. In this regard, although exploration expenditure has increased significantly over the past decade, the actual metres

drilled has not increased at the same rate, pointing to a decline in productivity (Schodde and Guj 2012).

An indicator of successful exploration activity is the number and size of discoveries. In terms of non-bulk mineral deposits, there has been a downward trend in the number of discoveries since the late 1990s, although the expenditure on exploration has been increasing (see figure 3).

Figure 3 Mineral discoveries and expenditures (non-bulk)^{a, b, c}



^a The (non-bulk) exploration expenditures exclude spending for coal and iron ore. ^b Some later discoveries may have been omitted. ^c 1) *Moderate* — Greater than: 100koz Au; 10kt Ni; 100kt Cu equivalent or 5kt U₃O₈. 2) *Major* — Greater than: 1 million oz Au; 100kt Ni; 1 million tonnes Cu equivalent or 25kt U₃O₈. 3) *Giant* — Greater than: 6 million oz Au; 1 million tonnes Ni; 5 million tonnes Cu equivalent or 125kt U₃O₈.

Data sources: ABS (various years), Geoscience Australia (2012) and Schodde, R. and Guj, P. (2012).

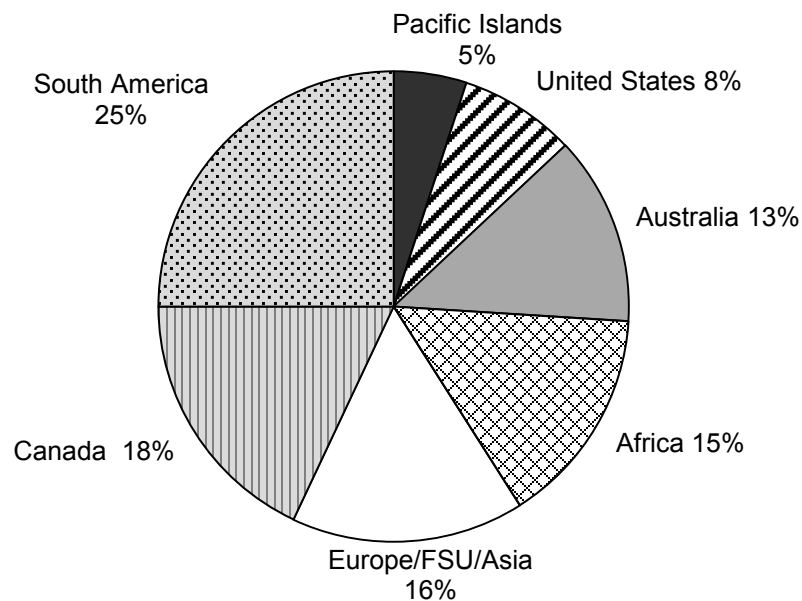
How appropriate are metres drilled and the number of discoveries as measures of exploration productivity, or are there better measures? What are the factors that complicate the interpretation of such measures? How sound are the statistics associated with productivity measures?

Is Australia's exploration activity becoming less productive? What factors are underpinning changes in exploration productivity and what contribution have current Government policy settings made to these changes?

Australia's share of world exploration expenditure

Australia's growth in exploration expenditure reflects the global mining boom that has been fuelled by the demand for resources. Australia accounted for around 13 per cent of world non-ferrous mineral exploration expenditure in 2011 (see figure 4).

Figure 4 **International share of non-ferrous mineral exploration expenditures, 2011**



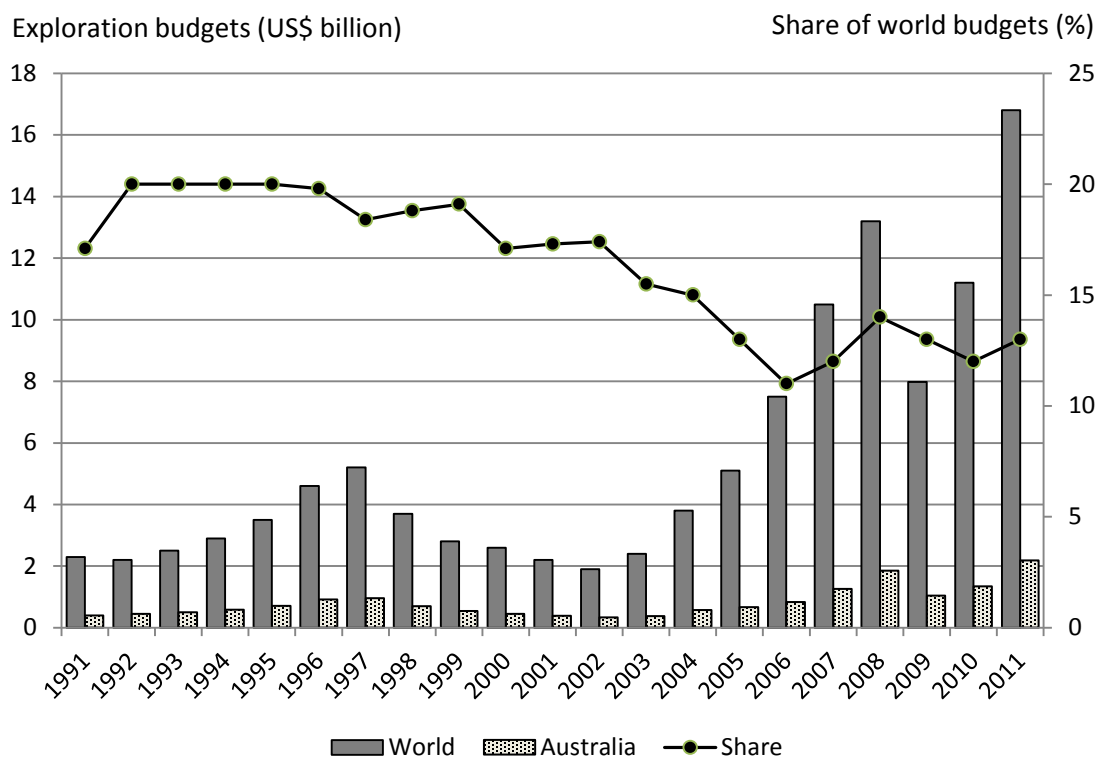
Data source: MEG (2012).

While expenditure in Australia has been variable, but rising over the last decade, Australia's share of world exploration expenditure has been declining. In the early to mid-1990s, Australia accounted for nearly 20 per cent of world exploration expenditure (figure 5).

Why is Australia's share of global exploration declining?

Factors that may be contributing to the decline, according to the recent Energy White Paper (Australian Government 2012), include: perceptions that Australia as a mature exploration destination provides fewer opportunities for discovery; the intense international competition for exploration investment; the relatively high cost of exploration in Australia, due to the high Australian dollar and labour costs; insufficient pre-competitive information; and the difficulty and costs involved in exploring for deposits deep in the ground.

Figure 5 Australia's share of global non-ferrous mineral exploration
excludes iron-ore and uranium^a



^a 2011 expenditure estimated as 50 per cent higher than in 2010 (figure from *World Exploration Trends 2012*).
Data sources: MEG (various years); Huleatt and Jaques (2009).

Similarly, the PTG (2012) considered that the shift to exploration in other countries could be explained by perceptions that Australia was becoming less prospective relative to ‘frontier’ countries and the higher cost of doing business in Australia — which was due in part to higher operating costs and to an increasing regulatory burden.

In addition, Australian exploration companies have become more involved in overseas locations, as junior explorers consider that they have increased ‘stock market appeal’ if they are seen to be active in Africa or South America (EIGWG 2012).

What are the factors underpinning the decline in Australia's share of global exploration expenditure? Do these factors differ by type of mineral or energy resource?

Is Australia seen as offering less likelihood of significant discoveries? Are the costs of exploration higher than in other countries? If so, what are the factors driving

these higher costs? (Issues relating to offsetting benefits, such as reduced sovereign risk, are discussed below.)

Has the ‘globalisation’ of Australian based exploration companies meant that they have spread their exploration activities too thinly in Australia?

Unnecessary regulatory burdens

Regulation imposes burdens on business through compliance costs and processing delays. The focus of this inquiry is on addressing the *unnecessary burdens* — that is, where the objectives of the regulation could be achieved with lower compliance costs — that are placed on resources exploration as a consequence of poorly designed and implemented regulation.

Such unnecessary burdens can arise in a number of ways, including through:

- poorly articulated or inconsistent regulatory objectives (within and between jurisdictions)
- excessive regulatory coverage
- overlap or duplication of, or inconsistency between, regulatory regimes (within and between jurisdictions)
- unwieldy approval and licensing processes
- poorly targeted or overly complex or prescriptive measures
- excessive reporting requirements
- creation of perverse incentives
- lack of transparency in regulatory processes.

These unnecessary burdens can affect exploration, and ultimately mineral and energy production, in several ways. These range from relatively ‘simple’ imposts on administrative and operational costs; to changing the way that explorers operate (altering processes or technology); to changing what is explored for and to missed opportunities (delays in mineral production and missed mining opportunities). Section 4 discusses the nature of the regulatory regimes associated with mineral and energy exploration activities. Section 5 examines the impacts of these arrangements.

In addition to the regulatory arrangements, the Commission will also be assessing the impacts of other non-financial barriers on the competitiveness and performance of Australia’s resource exploration sector, including matters relating to the workforce, geoscience and infrastructure. These are discussed in section 6.

4 The current exploration approvals system and processes

State and territory governments own all mineral and energy resources onshore and offshore within the first three nautical miles of the territorial sea. Beyond three nautical miles, they are owned by the Australian Government. Crown ownership of mineral and energy resources provides governments with the primary responsibility for determining the legal frameworks that govern exploration and production.

The key areas where state and territory governments intervene in resources exploration include:

- allocation of mineral resource tenements and ensuring the public benefit from their exploration
- land access for Crown and private land
- agreements regarding ‘future acts’ (that is, proposed activities on native title land that could extinguish or impede native title)
- environmental protection
- planning approvals under state agreements for specific large projects
- heritage issues
- regional economic and social issues
- water access (URS 2006).

State and territory frameworks also encompass the regulation of mineral and energy property rights; collection of royalties; and land and works administration (which, in turn, include regulation of environmental, heritage and occupational health and safety issues).

The Australian Government can impact on exploration activities in the states and territories through its powers relating to: taxation; foreign investment; company law; industrial relations; international agreements; competition regulation; the environment; heritage; and uranium-specific regulation.

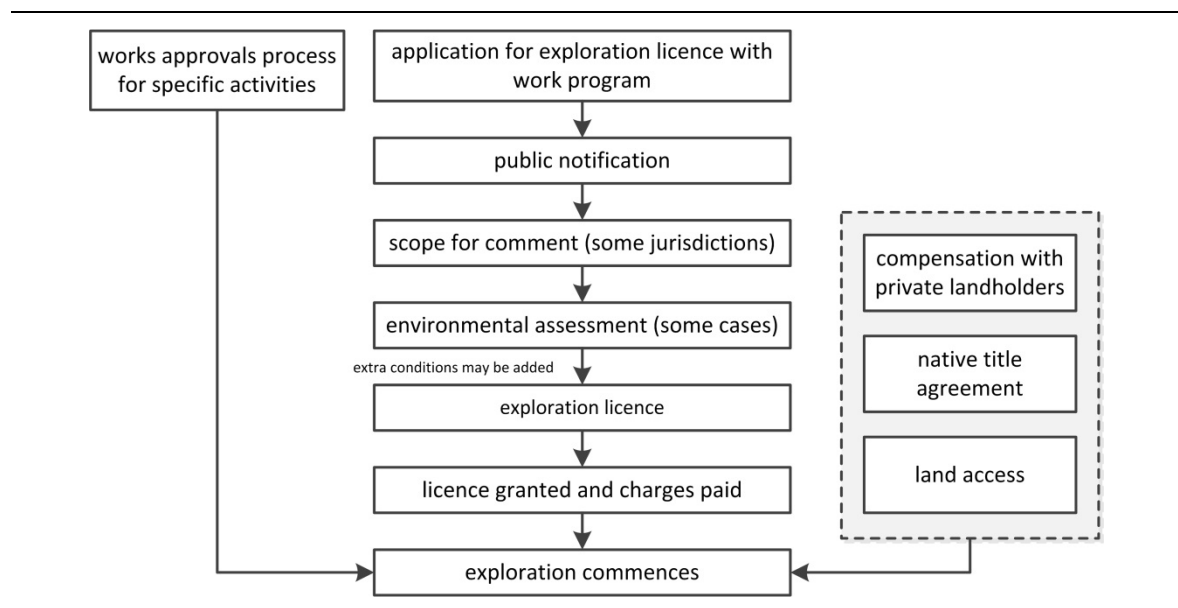
Local governments may also have an impact through their planning and zoning powers — although local government involvement is generally much less at the exploration stage compared to the production stage.

Exploration approval

State and territory governments generally establish guidelines for the approval of onshore and coastal water exploration projects in their mining legislation. Across the jurisdictions their legislation defines the processes for: applying for and granting tenure including consultation requirements; compensation payments to private landholders; and resolution of disputes over compensation and other exploration issues. In addition, the legislation sets out the powers of the governments to enforce and regulate environmental and rehabilitation performance as specified in the approval.

A stylised framework of the general processes associated with obtaining an exploration approval in Australian jurisdictions is provided in figure 6.

Figure 6 General process for exploration approvals in Australian jurisdictions



Data source: Penney et al. (2007).

Although the exact processes for obtaining an exploration license differ according to jurisdiction and mineral or energy type, these will typically cover:

- tenure — where the state or territory mining department issues a license (often on behalf of the Minister) to undertake exploration activities on a specified piece of land for a set period of time. These licences are usually allocated on a first-come first-served basis. However, for some resources (such as coal in Queensland and New South Wales) there is a competitive bidding process.
- environmental approval — including through an environmental impact assessment

-
- land access — where an agreement is made with landholders or through a native title process
 - works approval — to allow activities such as land clearing, construction of access roads, water access and discharge and noise and air emission.

In most jurisdictions, environmental approval and land access requirements are part of the tenure processes and may occur either concurrently or sequentially while works approval occurs through the preparation of an operational plan submitted by the proponent of the project for approval by the mines department. Unlike mining projects, planning approval is not generally an explicit requirement for exploration approvals. However, it may apply if the exploration project involves the installation of a structure (and, indeed, this can be as minor as signage advertising the exploration site) (URS 2006).

Offshore exploration

The processes for approval of offshore exploration are quite different to those for exploration on land. Offshore petroleum operations beyond coastal waters (greater than three nautical miles from the low-tide coastline) are governed by the *Offshore Petroleum and Greenhouse Gas Storage Act 2006*. Within this legal framework, the Australian Government and the states and Northern Territory jointly administer and regulate petroleum industry activities through a Joint Authority (JA) arrangement. Each JA arrangement comprises the Australian Government's Resources and Energy Minister and the relevant state/Northern Territory Minister.

Prospective offshore exploration areas are released annually by the Offshore Petroleum Joint Authority. Upon release, explorers engage in a competitive bidding system (which is currently work program based). This is designed to award exploration permits to applicants who can satisfy the JA that the proposed work program is likely to significantly progress the assessment of the petroleum potential of the permit area and the applicant has the financial capacity and technical capability to undertake the work (DRET 2012).

General conditions applying to offshore exploration require that exploration activities are carried out so as not to unduly interfere with other users' rights and interests. They also include an obligation to comply with Australian legislation relating to the environment, native title rights, navigation and maritime safety, fishing activities, defence activities, submarine telecommunications and insurance. There may also be specific requirements relating to the particular area released for exploration. According to the Department of Resources Energy and Tourism (DRET) the most common requirements are for offshore explorers to hold the

relevant approvals and notify the relevant Australian, state and Northern Territory government agencies before undertaking seismic surveys and/or undertaking offshore drilling (DRET 2010a).

Exploration permits are issued for an initial six year term (that may be renewed) and provide exclusive rights to undertake exploration activity (such as seismic surveying and drilling) in a defined area. Once a discovery is made, the location must be declared to the JA prior to applying for a production licence or retention lease. If the discovery is considered by the titleholder to be commercial, they may apply for a production licence with details of development proposals for the area. If a titleholder makes a non-commercial discovery that is assessed as likely to become commercially viable within the next 15 years, an application may be made for a retention lease.

At each renewal, the applicant is required to relinquish a portion of their exploration area. This is set at 50 per cent of the area unless the location has been declared a successful discovery (DRET 2010b).

5 What are the impacts of these regulatory arrangements?

Generic issues

Increasing coverage and complexity

Explorers are required to negotiate access to land, meet environmental requirements and conduct any necessary Indigenous and non-Indigenous heritage surveys. An industry working group in Queensland noted that the complexity in the approvals system facing the resources sector was a result of the system having grown incrementally in response to various demands rather than as part of any overall plan. Successive governments were found to have added new requirements through legislation and departmental policy without considering how these requirements would fit together as a whole (Industry Working Group 2010).

How has the complexity of the approvals process increased over time? What factors are contributing to the increasing coverage and complexity of the approvals process? What can be done to reduce this complexity while still meeting regulatory objectives?

Delays

The cumulative impact of these additional requirements is that there are significant delays in the approvals process. The PTG (2010) noted that approvals can take up to 12 months before tenure to explore is granted.

Such delays can stall the exploration process, and where exploration is successful, delay the commencement of production. Delays have the capacity to alter the commercial viability of the exploration process and possible resource production. This can lower investor returns, limit the availability of cash flows to finance new exploration and production and impede efficient resource allocation and management.

Unnecessary delays, by lowering investor returns, may negatively impact on Australia as a destination for investment in resource exploration. This in turn has the potential to lead to economic losses for the wider community in the longer term.

There are also concerns that, in addition to the greater coverage and complexity of approvals required, the pace of approvals is slow due to a lack of staff and expertise within government agencies to administer the system.

How has the length and number of steps required of the approvals process changed over time? How does it compare with the international experience and across jurisdictions in Australia? Are there ways to shorten the duration of the approvals process while still meeting regulatory objectives?

Are there adequate resources and expertise to administer the system?

Compliance costs

Previous work by the Commission in the area of regulatory burdens (PC 2007, PC 2009, PC 2010) recognised that identifying and estimating the unnecessary costs of regulatory compliance by individuals and firms is difficult. Nonetheless, the component of the costs which are unnecessary may be significant where applications for resource exploration are required to be submitted for assessment and approval for a range of land access, environmental and heritage requirements. The PTG (2010) noted that some in the exploration sector suggested that total administration and compliance costs accounted for up to 60 cents in every \$1 of exploration capital raised.

Are there any estimates of the unnecessary costs of gaining approval (by project or company) to undertake resource exploration in Australia. If so, what proportion of (i) total approval costs and (ii) total exploration costs, do they account for? How

does this compare across Australian jurisdictions and with other countries? How can these unnecessary approval costs be eliminated or reduced while still meeting regulatory objectives?

Overlap and duplication

Overlap and duplication between different regulatory regimes, such as in complying with the environmental or heritage requirements of the Australian and state and territory governments may create additional and unnecessary regulatory compliance costs and delays for resource explorers.

Are there specific examples of overlap and duplication of regulatory requirements faced by resource explorers? What are the costs associated with such arrangements? Are there examples where different tiers of government mutually recognise compliance with another government's regulatory arrangements?

Inconsistent and/or competing policy objectives within or across jurisdictions may have the effect of constraining exploration activity. For example, environmental departments and mining and energy departments within a jurisdiction may have different land use priorities. Also, exploration for particular resources, such as uranium, may be permitted in one jurisdiction, but not in another.

How have regulators sought to balance competing policy objectives?

Are there examples of inconsistent or contradictory regulatory arrangements occurring within or across jurisdictions? How does this affect exploration activity?

Specific issues

Access to land

Resource explorers face two types of land access issues. There is the land they are excluded from where exploration (and any consequent production) is not permitted and the range of conditions and approvals placed on access to the land where exploration (and production) activities are permitted.

Exploration is not permitted in large areas of Crown land such as national or state parks. On other Crown land, such as nature conservation reserves and defence lands, exploration is restricted. For example, access is restricted to more than half of all Crown land in Victoria and in Tasmania exploration is prohibited in the 30 per cent of the state covered by state reserves and World Heritage areas (URS 2006).

Has there been an adequate examination of the costs and benefits of excluding exploration activities from particular land? Should land be indefinitely excluded from exploration activities, and if so under what circumstances? Are independent, transparent and evidence based processes used to determine which land is to be excluded from exploration activities?

On land where exploration activity is permitted, Australian, state and territory government legislation defines the processes and conditions for access. For example, in respect of private land, compensation is payable in all jurisdictions for land surface damage, severance from other land, restrictions on right of way, damage to improvements and reasonable expenses to control damage.

Are the processes and conditions placed on exploration activities to access private land and Crown land where mining exploration is permitted, unnecessarily onerous? Are there particular examples of such processes and conditions?

There is increasing pressure on governments to manage conflicts between mining and extraction activities and other land uses, such as agriculture, and access to resources such as water aquifers. Governments have generally sought to deal with such conflicts either through increasing the conditions relating to land access, including for exploration, or exempting certain types of land from exploration and/or production.

Queensland has enacted the *Strategic Cropping Lands Act 2011* to define certain parts of the state as strategic cropping land based on soil profiling. This creates protection areas in which future development including mines are effectively banned and management areas in which mining and petroleum and gas extraction can occur, but subject to a number of conditions to mitigate the impact on agricultural land. Similarly, in South Australia the *Mining Act 1971* exempts certain land, such as cultivated fields, plantations, orchards and vineyards from mining activities. Any mining activity on such land requires a waiver from the landholder or permission from the Environment, Resources and Development Court.

The recent debate on the impact of coal seam gas mining on agricultural land and underground aquifers has highlighted the potential for conflicting land use

How can the mineral and energy exploration sector coexist with other types of land use, such as agriculture? Are the additional processes and conditions placed on exploration activities necessary to ensure agricultural production is protected? Are current government policies and legislative responses based on a robust and transparent account of the costs and benefits of different types of land and aquifer use?

Processes relating to explorers' access to land under the Australian Government's native title legislation and Aboriginal land rights legislation relating to the Northern Territory and the various state Aboriginal land rights legislation are outside the scope of this inquiry.

Heritage issues

Resources exploration has the potential to disturb cultural heritage sites. Exploration may result in the removal of features of heritage value, visual scarring and loss of access to the heritage place.

Heritage can be classified into Indigenous, historic and natural heritage.

- Indigenous heritage includes places of significance to Indigenous people such as occupation sites, rock art, carved trees, places with known spiritual values, important waters or landscapes and places with contemporary value to Indigenous people.
- Historic sites relate particularly to the occupation and use of the continent since European settlement. They include remnants of early convict history, pastoral properties and small remote settlements, as well as large urban areas, engineering works, factories and defence facilities.
- Natural heritage includes land areas which have aesthetic, historical, scientific or social significance such as national parks, reserves, botanic gardens and private conservation areas, significant fauna and flora habitats and geological sites (Department of Sustainability, Environment, Water, Population and Communities 2011).

Heritage protection legislation can take many forms. As well as several specific heritage statutes, there are provisions in some environmental, development and local government laws that allow for the protection of heritage places and objects.

In some instances, explorers may be required to seek Indigenous heritage decisions under Australian and state and territory government regimes. Explorers need to also deal with heritage registers at both the Australian and state and territory government level.

In certain jurisdictions there are linkages between the native title regime and the protection of Indigenous heritage. For example, in Western Australia explorers are required to have heritage agreements in place before the expedited procedure under native title legislation can apply to the granting of an exploration licence.

Processes and requirements to meet heritage approvals vary between jurisdictions and can include the undertaking of archaeological or ethnographic surveys.

Are the current heritage requirements providing an appropriate balance between heritage preservation and resources exploration? Are there aspects of Indigenous and non-Indigenous heritage requirements that pose an unnecessary impediment to resources exploration? Are there ways to streamline the processes while still meeting regulatory objectives?

Environmental issues

Non-invasive exploration activities, often conducted at the start of projects, may have little or no environmental impact. Advanced exploration activities, such as drilling, clearing vegetation or building roads and infrastructure, can be more invasive. When exploration is expected to create environmental impacts, risks are assessed and conditions are imposed on the activity under various state, territory and Commonwealth Acts and regulations. Impacts are similarly managed under those regimes.

The relevant government authority decides whether an environmental assessment is necessary (for example, whether a project is environmentally significant) and, if so, the environmental issues to be addressed and the required level of environmental impact assessment. In some states, the authority is an environment agency, in others it is the resources department operating on advice from an environment agency (DRET 2010).

The Australian Government is involved through the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), which is triggered by any matters of national environmental significance. State and territory regulatory structures vary according to the type of resource. For example in Western Australia, the *Petroleum and Geothermal Energy Resources (Environment) Regulations 2012* require environment plans for geothermal land petroleum exploration.

The completion of an environmental impact assessment to meet the environmental regulation may present a number of issues for explorers. These have been raised in previous studies of the regulation of the exploration sector in Australia (URS 2006). At a broad level, they include the inadequate use of performance based standards and risk based regulation to meet environmental requirements. In the absence of appropriate risk based processes, explorers may be required to undertake unwarranted and excessive analysis, or duplicate previous analysis, in their environmental assessment which in turn can result in delays and additional costs (URS 2006).

The existence of both Australian Government and state and territory environmental legislation can result in duplication and uncertainty, including as to what may trigger the EPBC Act.

To address the issue of duplication, the Australian Government has entered into bilateral agreements with all jurisdictions to have their environmental assessment processes accredited as meeting the requirements of the EPBC Act. However, very few of these bilateral agreements actually accredit a state or territory to make binding decisions on EPBC Act matters (along with decisions required under their own legislation) (PC 2011).

Participants should be aware when raising issues associated with the EPBC Act that the terms of reference exclude the Commission from re-examining the Australian Government's response to the Independent Review of the EPBC Act.

Are the environmental approval processes and requirements of the states and territories (and the Australian Government to the extent they are in scope for this inquiry) commensurate with the environmental risks posed? If not, what aspects of the existing environmental assessment and management system place an unnecessary regulatory burden on exploration activities?

To what extent is there duplication and overlap between the state and territory environmental regulatory requirements and the EPBC Act? Does duplication exist within jurisdictions? What changes to the existing arrangements could reduce unnecessary regulatory burden and time delays while maintaining appropriate environmental protections?

Other specific regulatory issues

Bringing forward production related regulation onto exploration

While exploration and production are closely linked, they involve different activities and processes and where they are similar, such activities are usually undertaken on a much smaller scale at the exploration stage. It has been claimed that regulatory requirements that are more relevant to the production process rather than the less invasive or less extensive exploration activities are being 'brought forward' and placed on explorers. For example, information on water usage or the wider environmental impacts of mining or extraction may be required at the exploration stage, although the actual production may never occur.

Are regulatory requirements more relevant to production processes being unnecessarily placed on explorers?

Converting exploration licences into mineral and energy production licences

Exploration licences are granted to give explorers some certainty over their rights to profit from discoveries. This encourages investment and timely and efficient exploration. However, not all legislation is explicit in the rights that are provided to explorers (including holders of retention or assessment leases) to obtain mining or energy production leases following the discovery of an economically viable deposit or reserve.

For example, except in Western Australia, there is no expressed right for the holder of an exploration licence to convert that licence to a mining licence on application. (McConvill and Bagaric 2003). However, as McConvill and Bagaric (2003) noted, state and territory governments will nearly always grant a mining lease to an exploration licence holder who has made a significant discovery, although this is not reflected in the legislative provisions.

Have explorers been unable to convert an exploration licence into a mineral or energy production licence? Is there a need for wider legislative changes to provide greater certainty regarding the conversion of an exploration licence to a mineral or energy production licence?

Although much of the regulatory ‘workload’ faced by explorers relates to access to land, environmental management and heritage matters, the Commission is interested in any other regulatory requirements impacting on exploration activities.

Are there other regulatory approvals or processes which impose unnecessary regulatory burdens on explorers?

Impacts on Australia’s international competitiveness

In an internationally competitive environment for highly mobile capital, the return on investment in resource exploration in Australia relative to other locations is the key driver in attracting and continuing that exploration. There is a range of factors that determine Australia’s international competitiveness, including commodity prices, exchange rates, taxation, labour arrangements, infrastructure, geological data bases, sovereign risk, level of corruption and current regulatory arrangements.

The wider Australian resources sector is presently experiencing a moderation in resource prices and a higher Australian dollar. In response to these pressures, the resources sector has called for governments to adjust policy settings to reduce the cost base of the sector to ensure Australia remains internationally competitive (Port Jackson Partners 2012). To maintain competitiveness, the Energy White Paper

highlighted the importance of maintaining efficient and effective regulatory structures to attract new investment (Australian Government 2012).

How does Australia fare?

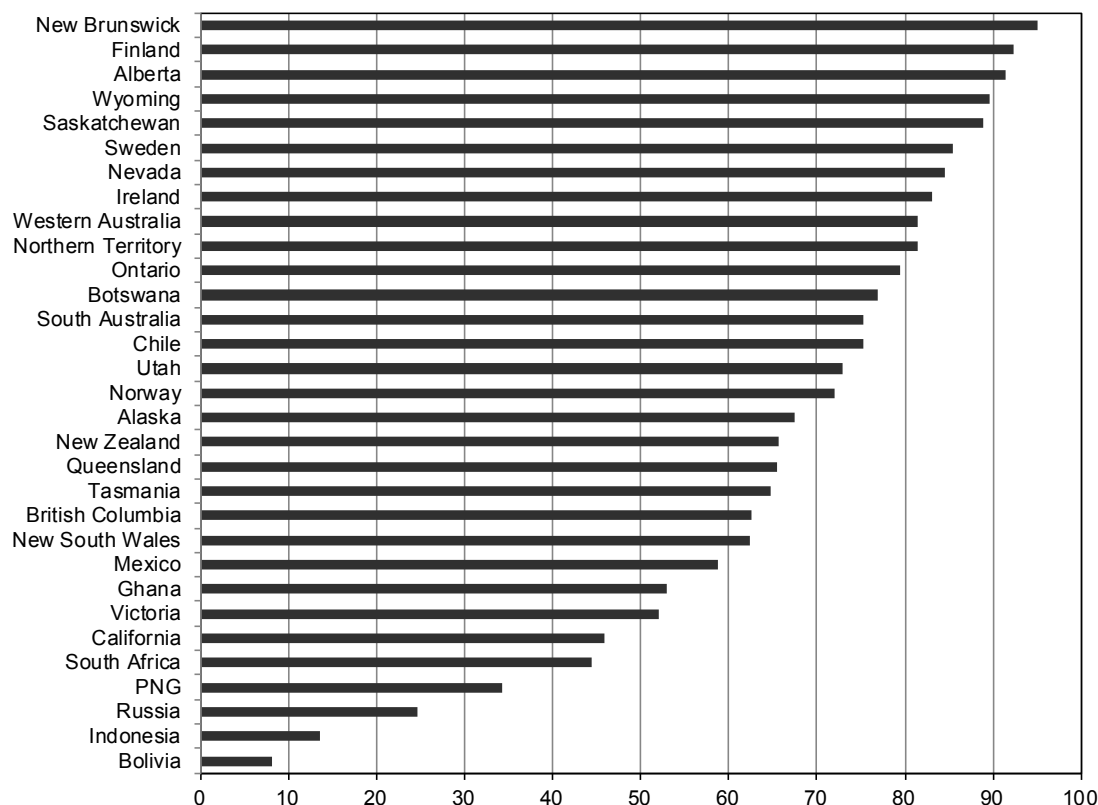
A Canadian research organisation, the Fraser Institute (2012), conducts an annual survey of metal and mineral exploration companies to assess how public policy factors affect exploration investment. The factors include: the administration, enforcement and interpretation of regulation; environmental regulation; regulatory inconsistencies and duplication; taxation; political stability; uncertainty involving native land claims; infrastructure; labour issues; geological data bases; security and corruption.

The Institute's composite Policy Potential Index acts as a 'report card' to governments on the attractiveness of their mining and exploration policies for exploration investment. The results are broken down by sub-national jurisdiction for major resource countries such as Canada, Australia and the United States. A jurisdiction that ranks first under 'encourages investment' in every policy area would achieve a score of 100 and a jurisdiction that scored last in every policy area would achieve a score of 0.

Based on this index, Australia overall is a relatively attractive country in which to invest in resource exploration, although there appears to be an east-west divide. In 2011-12, the Northern Territory and Western Australia each achieved a score of 81.5 and South Australia achieved a score of 75.3 whereas Queensland scored 65.5, Tasmania 64.8, New South Wales 62.4 and Victoria 52.1 (figure 7).

Australian jurisdictions were rated very highly in regard to 'legal processes that are fair, transparent, non-corrupt, timely, and efficiently administered' and on 'political stability' and 'security'. Although performing relatively well, Australian jurisdictions received their lowest rankings in regard to 'uncertainty concerning which areas will be protected as wilderness areas, parks or archaeological sites' and 'uncertainty concerning disputed land claims' (Fraser Institute 2012).

Figure 7 Selected jurisdictions and countries Policy Potential Index score, 2011-2012^a



^a The Policy Potential Index is a composite 100 point index based on a survey of minerals and metal exploration companies used to assess how public policy factors affect exploration investment including the administration, enforcement and interpretation of regulation; environmental regulation; regulatory inconsistencies and duplication; taxation; political stability; uncertainty involving native land claims; infrastructure; labour issues; geological data base; security and corruption. A jurisdiction that ranks first under 'encourages investment' in every policy area would achieve a score of 100 and a jurisdiction that scored last in every policy area would achieve a score of 0.

Data source: Fraser Institute (2012).

How significant are any unnecessary adverse regulatory impacts on the resource exploration sector's productivity, profit and international competitiveness compared to exploration in comparable countries?

Are there other measures which provide insight into Australia's competitiveness?

What lessons could be learned from countries, or particular states or provinces within these countries, to reduce unnecessary regulatory burdens on resource exploration in Australia?

6 Other issues impacting on the performance and efficiency of resource exploration in Australia

In addition to the regulatory arrangements, the Commission has been asked to examine other non-financial barriers to resource exploration.

Workforce issues

There is ample evidence that skills shortages have been prevalent in the resources sector, especially in Western Australia and Queensland. Several occupations critical to mineral and energy exploration, such as geologists, geophysicists and surveyors, are currently listed on the Australian Government's *Skills Shortage List* as being subject to a national shortage.

The presence of skills shortages has encouraged exploration companies to turn to employee sponsored migration to recruit new workers into the industry. In 2011-12, over 800 geologists were approved for an employer sponsored 457 visa to work in Queensland, Western Australia and South Australia (DIAC 2012).

What occupations and skills sets relevant to resource exploration are currently subject to shortages?

How much more costly is it to employ skilled workers, such as geologists and mining surveyors, in Australia compared to countries such as the United States and Canada?

Has industry been adequately involved in the training and education of the skilled workers required for resource exploration? How have the vocational education and higher education sectors performed in educating and training the skilled workers required for resource exploration?

Does employer sponsored migration represent an effective way to address these shortages, in the short-term and over the longer term, and are the current employer sponsored migration processes efficiently administered?

Over the course of the current mining boom, there has been much discussion on workplace relations regulation and productivity in mineral and energy production.

Are the current workplace relations regulations an issue for the mineral and energy exploration sector? To what extent have these arrangements impacted on the productivity and overall competitiveness of the sector?

Government provision of geological information

As owners of the resources, governments in Australia have had a long involvement in acquiring, storing and disseminating geological information on their resource endowment. Geoscience Australia and state and territory geological surveys collect, collate and integrate basic geoscientific data. Access to this information, known as pre-competitive geoscience data, is considered to be fundamental to the assessment of prospectivity and to reduce the risks involved in area selection and exploration (PTG 2010).

The Exploration Investment and Geoscience Working Group (EIGWG) (2012), in its report to the Standing Committee on Energy and Resources, highlighted the value of pre-competitive geoscience data in attracting exploration investment through reducing the risks and costs associated with exploration.

The PTG (2010) report noted that the resources exploration sector supported the provision of such information, particularly regional surveys conducted by Geoscience Australia. It went on to note that, given the public good nature of geoscientific information, industry would not conduct these broad regional surveys on its own and that the data provided by these surveys enabled explorers to make informed decisions in targeting their exploration, which in turn reduced the inherent risks associated with exploration.

Government geological agencies consult with industry and other stakeholders when prioritising, upgrading or providing new data over areas that are either under-explored or have never been explored. Geoscience Australia also undertakes studies into the distribution of resource deposits in regions of deep cover where future deposits are likely to be found (PTG 2010).

The PTG (2010) recommended that the Australian Government provide a more sustainable stream of funding to Geoscience Australia to obtain and make available pre-competitive geospatial and geoscience information and manage publicly and privately acquired data through its national data repository. The Australian Government recently committed additional funding of \$114 million to Geoscience Australia to improve the understanding of Australia's onshore and offshore resource base (Ferguson 2012).

In its report, the EIGWG (2012) recommended the use of a number of levers related to improving the quality, relevance and accessibility of pre-competitive geoscience to increase Australia's competitiveness in attracting and retaining exploration. The EIGWG suggested:

-
- a national exploration strategy including a marketing plan to promote exploration in Australia, a renewed commitment to government funding of pre-competitive geoscience information by all jurisdictions and support for new geoscience research for deep earth exploration
 - a renewed focus on promoting greenfields exploration through regional basement drilling programs, mapping of undercover potential and direct support to explorers through co-funded drilling programs
 - the development of a national geoscience initiative to include a national seamless multi-theme geomap, national 3D geology, a new exploration information portal and harmonised geoscience datasets across Australia.

In response to the report, the Standing Committee on Energy and Resources agreed to develop a National Mineral Exploration Strategy to address Australia's declining greenfields exploration.

Is the availability and access to pre-competitive geoscience information adequate to meet the needs of the resource exploration sector? Is the focus of Geoscience Australia and the state and territory surveys, in terms of their pre-competitive data collection, reflective of industry needs?

Based on the relative public and private benefits accruing from the provision of geoscientific information, is the balance between public and private investment in the acquisition and distribution of this information efficient from an economy-wide perspective?

If implemented, would the levers developed by the EIGWG improve the quality, relevance and accessibility of pre-competitive geoscience? Would these improvements add to Australia's competitive position in attracting resource exploration?

How effective are the existing processes used to determine the respective roles of Geoscience Australia and the various state and territory government geological surveys? Are existing mechanisms which govern cooperation and coordination between these agencies effective? To what extent is there overlap and duplication between these agencies?

Access to infrastructure

Access to infrastructure, such as roads, rail, electricity, water and ports, is a key consideration in moving from the exploration phase into production. While resource exploration itself does not require access to the range of infrastructure required for mining production, it does need to take into account the suitability and capacity of

existing infrastructure (such as access roads and water) to support exploration activities.

What are the issues in accessing infrastructure to support exploration activities?

Occupational Health and Safety

Resource exploration in Australia operates under a range of occupational health and safety (OHS) regimes. Each state and territory has their own regime and most also have specific legislation applying to mine health and safety. For example, in Queensland the *Mining and Quarrying Health and Safety Act*, the *Coal Mining Health and Safety Act* and the *Petroleum Act* apply to exploration activities. Also, specific OHS legislation and regulation dealing with explosives handling, civil aviation and transportation of hazardous and dangerous materials may also apply to exploration activities.

Offshore exploration activities (such as drilling wells), in both Commonwealth and coastal waters, are subject to specific Commonwealth OHS legislation applying to offshore petroleum operations. This was a result of the states (except for Western Australia) and the Northern Territory conferring their regulatory functions to the Australian Government's offshore regulator NOPSEMA.

To what extent have the various OHS regimes created unnecessary burdens for exploration activities? Have the various industry specific regimes resulted in unnecessary duplication or overlap?

Access to capital

Resource exploration relies heavily on the ability to raise capital. There has been some concern raised by junior explorers that the Australian capital market has a 'lack of patience' or a short-term focus at odds with the longer periods required for greenfields exploration to provide positive results. The PTG (2010) noted that as resource exploration was an inherently risky activity not all capital raisings, particularly for exploration would, or should, be successful.

The PTG (2010) concluded that the Australian capital market operated efficiently and effectively in allocating funds to various sectors across the Australian economy, based on the risk and reward of each investment. It said:

Evidence presented by industry in relation to recent capital raisings demonstrates that Australian exploration companies are able to generate funds in Australia both for domestic and overseas exploration. (p. 15)

The EIGWG (2012) commented that junior explorers faced a number of issues in attracting investment. There is a perception that junior explorers have added 'stock

market appeal’ if they are active in exploration in Africa or South America. It also commented that in comparison with Australian junior explorers, Canadian junior explorers had a number of financial advantages including their proximity to the Toronto stock exchange. This exchange is considered to be a major centre for raising capital for exploration, and the United States is also a major source of risk capital for Canadian juniors. In addition, both the Canadian Government and provincial governments provide tax incentives for explorers.

Is accessing capital a problem for resource exploration companies? Is there any evidence that Australian capital markets are not operating efficiently and effectively? How successful have Australian exploration companies been in accessing offshore capital markets?

Resource Reserve Disclosure by non-ASX companies

The terms of reference also ask the Commission to consider the work of the EIGWG on resource reserve disclosure by companies not listed on the Australian Stock Exchange (ASX). Resource companies listed on the ASX are required to report publicly on exploration results, mineral resources and ore reserves. The reported mineral resource and production data is aggregated and published annually by Geoscience Australia and used by the Australian, state and territory governments in policy development.

However, foreign companies which own Australian resources and privately owned Australian companies not listed on the ASX are not required to publicly report on mineral and energy resources. According to the EIGWG (2012), takeover and merger activity by foreign resource firms over time has reached a point where ‘... Australia no longer has an accurate Economic Demonstrated Resource for a range of minerals’ (p. 4). Although the states and territories impose various inventory and production reporting requirements on the granting of mineral licences, these are primarily focussed on production data (for the purpose of royalty collection). Moreover, according to the EIGWG (2012), reporting of exploration results, mineral reserves and ore reserves has not been systematically enforced by the jurisdictions and this has left gaps in the resource information base across commodities and jurisdictions.

The extent to which data collection issues have hampered access to sufficiently reliable information on Australia’s resource reserves and production, and whether the imposition of reporting requirements on non-reporting companies is warranted, is currently being considered by the Standing Committee on Energy and Resources.

What is the impact of this non-disclosure, or incomplete reporting, on exploration activity on the international competitiveness and economic performance of Australia’s exploration sector?

References

- ABS (Australian Bureau of Statistics) 2012, *International Trade in Goods and Services*, Cat. no. 5368.0, Australia, June.
- APPEA (Australian Petroleum Production and Exploration Association) 2012, 'Submission to the Business Tax Review Working Group, Discussion Paper', September.
- Australian Government 2012, *Energy White Paper 2012, Australia's Energy Transformation*, DRET, November.
- Department of Infrastructure and Planning (New South Wales) 2012, *Strategic Land Use Policy*, September.
- Department of Sustainability, Environment, Water, Population and Communities 2011, *State of the Environment*, <http://www.environment.gov.au/soe/2011/index.html> (accessed 30 November 2011).
- DIAC (Department of Immigration and Citizenship) 2012, *Subclass 457 State/Territory Summary Report: 2011-12 to June 2012*, <http://www.immi.gov.au/media/statistics/pdf/457-stats-state-territory-june12.pdf>, (accessed 29 October 2012).
- DRET (Department of Resources, Energy and Tourism) 2010a, *Australia 2010, Offshore Petroleum Exploration Acreage Release, Titleholder Obligations*, Fact Sheet.
- 2010b, *Australia 2010, Offshore Petroleum Exploration Acreage Release, Permit Renewals and Relinquishment*, Fact Sheet.
- 2012a, 'Exploration Guide for Investors', http://www.ret.gov.au/resources/Minerals%20and%20Petroleum%20Exploration/Guide_for_20Investors_13EnvironmentalProtection.pdf (accessed 22 November 2012).
- 2012b, *Australia 2012, Offshore Petroleum Exploration Acreage Release, Bid Assessment Criteria*, Fact Sheet.
- Economic Development and Infrastructure Committee, Parliament of Victoria 2012, *Inquiry into Greenfields Mineral Exploration and Project Development in Victoria*, May.
- Eggert R.G. 2010, *Mineral Exploration and Development: Risk and Reward*, *International Conference on Mining*, 'Staking a claim for Cambodia', Phnom Penn, Cambodia, 26-27 May.
- EIGWG (Exploration Investment and Geoscience Working Group) 2012, *Levers to Improve Australia's Global Position for Attracting Resource Exploration Investment*, Report to the Standing Council on Energy and Resources.

-
- Ferguson, M. (Minister for Resources and Energy and Minister for Tourism) 2012, 'Improving Australia's Resource Potential', *Media Release*, 14 November.
- Finisterre 2003, *Mineral Exploration*, Draft, prepared for the Economic Development Branch, BC Ministry of Sustainable Resource Management, Vancouver BC Canada, http://www.al.gov.bc.ca/clad/strategic_land/blocks/cabinet/mineral_exploration.pdf (accessed 12 October 2012).
- Fraser Institute 2012, *Annual Survey of Mining Companies 2011/2012*, Fraser Institute, February.
- Geoscience Australia 2012, 'Exploration expenditures (excluding coal and iron ore) 1970 to 2012', special request, spread-sheet data derived from ABS Mineral and Petroleum Exploration publications (various years).
- Hogan, L., Harman, J., Maritz, A., Thorpe, S., Simms, A., Berry, P. and Copeland, A. 2002, *Mineral Exploration in Australia: Trends, Economic Impacts and Policy Issues*, ABARE eReport 02.1, Canberra, December.
- Huleatt, M. and Jaques, L. 2009, *Australian Mineral Exploration, A Review of Exploration for the Year 2008*, Geoscience Australia, February.
- Industry Working Group 2010, *Supporting Resource Sector Growth, Industry Proposals for Streamlining Queensland's Approval Process*, Queensland Resources Council, April.
- Marjoribanks, R. 1997, *Geological Methods in Mineral Exploration and Mining*, Chapman and Hall, London.
- McConvill, J. and Bagaric, M. 2003, 'The right to convert exploration licences to mining leases in Australia: a proposed national uniform model', *Journal of Energy and Natural Resources Law*, vol. 21, no. 3, pp. 241-51.
- MEG (Metals Economics Group) 2012, *World Exploration Trends 2012: A special report from Metals Economics Group for the PDAC International Convention*, (Prospectors and Developers Association of Canada).
- Moon, C.J. and Evans, A.M. 2006, 'Ore, mineral economics and mineral exploration', Chapter 1, *Introduction to Mineral Exploration*, Second Edition, Moon, C.J., Whateley, M.K.G. and Evans, A.M. (eds), Blackwell Publishing.
- PC (Productivity Commission) 2007, *Annual Review of Regulatory Burdens on Business: Primary Sector*, Research Report, Canberra.
- 2009, *Annual Review of Regulatory Burdens on Business: Social and Economic Infrastructure Services*, Research Report, Canberra.
- 2011, *Performance Benchmarking of Australian Business Regulation: Planning, Zoning and Development Assessment*, Research Report, Canberra.

-
- Penney, K., McCallum, R., Schultz, A. and Ball, A. 2007, *Mineral Exploration in APEC Economies: A Framework for Investment*, APEC Energy Working Group, Report no. APEC#207-RE-01.10, ABARE Research Report 07.22, Canberra, December.
- Port Jackson Partners 2012, *Opportunity at Risk. Regaining our Competitive Edge in Minerals Resources*, A report commissioned by and prepared for the Minerals Council of Australia, September.
- PTG (Policy Transition Group) 2010, *Minerals and Petroleum Exploration*, Policy Transition Group Report to the Australian Government, December.
- Schodde, R. and Guj, P. 2012, *Where are Australia's mines of tomorrow?*, Centre for Exploration Targeting, University of Western Australia, September.
- URS 2006, *National Audit of Regulation Influencing Mining Exploration and Project Approval Processes*, Prepared for the Minerals Council of Australia, February.
- Williams, T. 2012, 'Exploration and the Listed Resource Sector', *Reserve Bank Bulletin*, September Quarter.

Attachment A: Terms of Reference

Inquiry into Non-financial barriers to mineral and energy resource exploration

I, David Bradbury, Assistant Treasurer, pursuant to Parts 2 and 3 of the *Productivity Commission Act 1998*, hereby request that the Productivity Commission undertake an inquiry into the *Non-financial barriers to mineral and energy resource exploration*.

BACKGROUND

The Policy Transition Group (PTG) was established to advise on the implementation and technical design elements of the new resource taxation reforms, and minerals and petroleum exploration. In its report to the Australian Government in December 2010, the PTG recommended that the Productivity Commission be tasked with undertaking an examination of the regulatory barriers faced by exploration companies. The report noted that ‘a range of approvals are required before exploration can begin, including land access, native title, indigenous and non-indigenous heritage, environmental, conservation estate, and planning and infrastructure approvals’.

PURPOSE

This review will examine exploration approvals systems and processes, within and across jurisdictions, to assess their effectiveness and efficiency. The Commission will also assess areas of duplication between State, Territory and Commonwealth regulation for potential streamlining and further review. The Commission will also assess costs associated with government processes and broader economic costs such as that associated with regulatory duplication but not related to taxation, financial incentives, fees, charges and royalties.

SCOPE OF THE INQUIRY

The Commission is requested to outline high priority reform options to address non-financial barriers to exploration for mineral and energy resources in Australia. In order to achieve this, the Commission should:

- determine if there is evidence of unnecessary regulatory burden and if there is, make recommendations on how to reduce or eliminate these burdens;
- examine the complexity and time frames of government approvals processes for exploration, and potential for delay due to appeals both within and across jurisdictions;
- examine areas of duplication between and within Local, State, Territory and Commonwealth regulation that can be triggered throughout an exploration project;
- examine costs of non-financial barriers (including regulatory and related costs);

-
- consider options to improve the regulatory environment for exploration activities, having regard to regulatory objectives; and
 - assess the impact of non-financial barriers on international competitiveness and economic performance of Australia's exploration sector.

Local, state, territory and Commonwealth taxation and fiscal policy is not to be examined.

The inquiry is not to re-examine the Government's response to the Report of the Independent Review of the *Environment Protection and Biodiversity Conservation Act 1999*.

The inquiry is not to examine processes under the Commonwealth's *Native Title Act 1993*, the *Aboriginal Land Rights (Northern Territory) Act 1976* or state Indigenous land rights regimes.

In undertaking this inquiry, the Commission should take into account current or recent reviews commissioned by state, territory and the Commonwealth Governments regarding regulatory approval processes for exploration.

There is a continued need for government involvement in pre-competitive geoscience to attract exploration investment. As such, the Exploration Investment and Geoscience (EIG) working group's report to the Standing Council on Energy and Resources on options that may be used to improve Australia's global position for attracting resource exploration investment should inform this inquiry. This inquiry will also consider the work the EIG working group is undertaking on resource reserve disclosure by non-Australian Stock Exchange (ASX) companies.

The Commission should consult with all relevant state, territory and Commonwealth government agencies and other key stakeholders. The Commission will report within 12 months of receipt of this reference and will hold public hearings for the purpose of this inquiry. The Commission is to provide a draft and final report to the Australian Government, both of which will be published.

The Government will consider the Commission's recommendations, and its response will be announced as soon as possible after the receipt of the Commission's final report.

The Australian Government will refer the final report to the Council of Australian Governments for action by Australian jurisdictions after the inquiry report has been tabled in Parliament.

DAVID BRADBURY

Attachment B: How to make a submission

This is a public inquiry and the Commission invites interested people and organisations to make a written submission.

Each submission, except for any information supplied in confidence (see below), will be published on the Commission's website shortly after receipt, and will remain there indefinitely as a public document. Copyright in submissions sent to the Commission resides with the author(s), not with the Commission.

How to prepare a submission

Submissions may range from a short letter outlining your views on a particular topic to a much more substantial document covering a range of issues. Where possible, you should provide evidence, such as relevant data and documentation, to support your views.

All submissions should be provided as public documents that can be placed on the Commission's website for others to read and comment on. However, under certain circumstances the Commission can accept sensitive material in confidence, for example, if it is of a personal or commercial nature, and publishing the material would be potentially damaging. You are encouraged to contact the Commission for further information and advice before submitting such material. Material supplied in confidence on personal or commercial grounds should be provided under separate cover and clearly marked 'PERSONAL IN CONFIDENCE' or 'COMMERCIAL IN CONFIDENCE' accordingly.

How to submit a submission

Each submission should be accompanied by a submission cover sheet. The submission cover sheet is available on the inquiry webpage and a copy is included with this issues paper (attachment C). For submissions received from individuals, all personal details (e.g. home and email address, phone and fax number) will be removed before it is published on the website for privacy reasons.

The Commission prefers to receive submissions as a Word (.doc) file attachment to an email (see address below). PDF files are acceptable. To ensure your PDF is as electronically readable as possible, the Commission recommends that it is derived from word processing software (e.g. Microsoft Word or Lotus notes) and not from a scanner, fax or photocopying machine.

Track changes, editing marks, hidden text and internal links should be removed from submissions before sending to the Commission. To ensure hyperlinks work in your

submission, the Commission recommends that you type the full web address (e.g. <http://www.referred-website.com/folder/file-name.html>).

Submissions can also be accepted by fax or post (see address below).

By email*: resourceexploration@pc.gov.au

By fax: 02 6240 3399

By post: Resource Exploration Inquiry
Productivity Commission
GPO Box 1428
Canberra City ACT 2601

* If you do not receive notification of receipt of an email message you have sent to the Commission within two working days of sending, please contact the Administrative Officer.

Due date for submissions

Please send submissions to the Commission by **15 March 2013**.

Attachment C

Productivity Commission SUBMISSION COVER SHEET (not for publication)



Australian Government
Productivity Commission

Please complete and submit this form with your submission to:

Mineral Exploration Inquiry
Productivity Commission
GPO Box 1428
Canberra City ACT 2601

OR

By facsimile (fax) to:

Melissa Edwards (02) 6240 3399

By email: resourceexploration@pc.gov.au

Name (first name and surname):

If submitting on behalf of a company or organisation:

Name of organisation:

Position in organisation:

Phone:

Mobile:

Email address:

Street address:

Suburb/City:

State:

P'code:

Postal address:

Suburb/City:

State:

P'code:

Please note:

- Copyright in submissions resides with the author(s), not with the Productivity Commission.
- Following processing, public submissions will be placed on the Commission's website. **Submissions will remain on the Commission's website as public documents indefinitely.**
- As this is a public inquiry, 'in confidence' material can be accepted only under special circumstances. **You should contact the Commission before submitting this material.**
- For submissions made by individuals, only your name and the state or territory in which you reside will be published on the Commission's website. All other contact details will be removed from your submission.

Please indicate if your submission:

- ☐ Is a public submission, it does NOT contain 'in confidence' material and can be placed on the Commission's website.
- ☐ Contains SOME material supplied 'in confidence' (provided under separate cover and clearly marked IN CONFIDENCE).

The Final Report will be available for viewing from the Commission's website - would you like to receive a hardcopy?

- ☐ No (view online)
- ☐ Yes (post)